Amendments to the Specification:

Please replace the title as follows:

APPARATUS AND METHOD FOR MIXING BY AGITATION IN A MULTICHAMBERED MIXING APPARATUS INCLUDING A PRE-AGITATION MIXING CHAMBER

Please replace the paragraph beginning on page 6, line 8, with the following rewritten paragraph:

In an apparatus for mixing powder and liquid by agitation as described above, the powder inlet and the liquid inlet ~~may be~~ may both be placed at either an upper part of the casing or a lower part of the casing.

Please replace the paragraph beginning on page 7, line 26, with the following rewritten paragraph:

By feeding the liquid from the space formed between the two packings, the powder fed from the powder inlet ~~locating~~ located below or above the liquid inlet can be brought into immediate contact with the liquid flowing from above or below, which prevents the powder from rising up and adhering to an upper inner wall of the casing, or from sticking on the upper part of the agitation body. In this manner, the powder and the liquid can be almost instantly mixed by agitation at a specified compounding ratio.

Please replace the paragraph beginning on page 8, line 20, with the following rewritten paragraph:

~~(In~~In the apparatuses as described above, a coupling duct which connects the filtered drain port or the unfiltered drain port to the inlet duct may be provided.

Please replace the paragraph beginning on page 9, line 26, with the following rewritten paragraph:

Fig. 2 is an expanded ~~sectional~~ view of part A in Fig. 1 for explaining the double packing construction in an apparatus for mixing by agitation according to a third embodiment of the present invention;

Please replace the paragraph beginning on page 10, line 1, with the following rewritten paragraph:

Fig. 3 is a schematic diagram showing a partial structure of a casing in an apparatus for mixing by agitation according to a ~~forth~~ fourth embodiment of the present invention;

Please replace the paragraph beginning on page 10, line 4, with the following rewritten paragraph:

Fig. 4A shows a first exemplary embodiment of an agitation body ~~example~~ used for an apparatus for mixing by agitation according to ~~yet forth embodiment of~~ the present invention;

Please replace the paragraph beginning on page 10, line 7, with the following rewritten paragraph:

Fig. 4B shows a second exemplary embodiment of an agitation body ~~example~~ used for an apparatus for mixing by agitation according to ~~a still forth embodiment of~~ the present invention;

Please replace the paragraph beginning on page 10, line 10, with the following rewritten paragraph:

Fig. 4C shows a third exemplary embodiment of an agitation body ~~example~~ used for an apparatus for mixing by agitation according to ~~yet forth embodiment of~~ the present invention;

Please replace the paragraph beginning on page 10, line 13, with the following rewritten paragraph:

Fig. 4D shows a fourth exemplary embodiment of an agitation body ~~example~~ used for an apparatus for mixing by agitation according to ~~yet forth embodiment of~~ the present invention;

Please replace the paragraph beginning on page 10, line 22, with the following rewritten paragraph:

Fig. 7 is a sectional view along the line ~~A-A'~~ VII-VII of Fig. 6;

Please replace the paragraph beginning on page 10, line 23, with the following rewritten paragraph:

Fig. 8 is a sectional view along the ~~line B-B'~~ VIII-VIII of Fig. 6,

Please replace the paragraph beginning on page 10, line 24, with the following rewritten paragraph:

Fig. 9 is a vertical section view of an apparatus for mixing by agitation according to a seventh embodiment of the present invention;

Please replace the paragraph beginning on page 10, line 27, with the following rewritten paragraph:

Fig. 10A is a partial vertical section view of an apparatus for mixing by agitation according to ~~yet~~ the seventh embodiment of the present invention;

Please replace the paragraph beginning on page 11, line 1, with the following rewritten paragraph:

Fig. 10B is a transverse cross-section view of the lower part of an apparatus for mixing by agitation according to ~~still~~ the seventh embodiment of the present invention;

Please replace the paragraph beginning on page 11, line 4, with the following rewritten paragraph:

Fig. 11A is a partial vertical section view of an apparatus for mixing by agitation according to ~~yet another~~an eighth embodiment of the present invention, and

Please replace the paragraph beginning on page 11, line 7, with the following rewritten paragraph:

Fig. 11B is a transverse cross-section view of the lower part of an apparatus for mixing by agitation according to ~~yet another~~the eighth embodiment of the present invention.

Please replace the paragraph beginning on page 12, line 3, with the following rewritten paragraph:

The liquid inlet 50 is connected, via a valve 40 and a pump 22, to a liquid reservoir 20 in which the liquid 24 to be mixed is stored. On the other hand, the powder inlet 52 is connected to a powder inlet duct 30 through a valve 42. It is preferable that the upper part of the powder inlet duct 30 is formed in a funnel shape. In order to feed a powder at a relatively high velocity, an ~~introducer (not shown in Fig. 1; for example, a screw feeder)~~ introducer 36 consisting of an introduction shaft connected to a motor 32 being a driving source for rotation and a helical blade attached on the perimeter of the introduction shaft, or a single-shaft eccentric pump (for example, the commercially available NEMO® pump manufactured by HEISHIN Ltd.) are mounted on the powder inlet duct 30. It is desirable that the powder inlet duct 30 be installed in a slanting position relative to the casing 12, which facilitates smooth feeding of the ~~powder~~ powder 34 as well as preventing residence of the powder 34 in a pipe connecting the powder inlet duct 30 and the casing 12.

Please replace the paragraph beginning on page 13, line 26, with the following rewritten paragraph:

According to a second embodiment of the present invention, in the agitation mixer shown in Fig. 1, the supply port 56 is connected to the pump 22 and the liquid reservoir 20 through the valve 46 and used instead of the liquid inlet 50, the supply port 54 is connected to the powder inlet duct 30 through the valve 44 and used instead of the powder inlet 52, and the liquid inlet 50 as described in the first embodiment is used as a drain port through which the mixture of the ~~liquid~~ liquid 24 and the ~~powder~~ powder 34 is ejected. Because components other than those described above in the second embodiment correspond to the components of the agitation mixer according to the first embodiment, corresponding components are identified by the same reference number or character, and their description is not repeated.

Please replace the paragraph beginning on page 15, line 17, with the following rewritten paragraph:

By loading the liquid 24 into the space within the double packing structure as described above, the powder 34 supplied from the powder inlet 52 can be immediately brought into contact with the liquid 24 flowing from above, which prevents the powder 34 from rising up into the upper part of the casing 12 to thereby adhere to the upper inner wall of the casing 12 or stick on the top part of the agitation body. In this manner, a powder/liquid-mixing ratio can be ~~continuouslymaintained,~~ continuously maintained, which enables further improvement of mixing accuracy. Although a layout in which the motor 18 in the agitation mixer 10 shown in Fig. 1 is placed in the upper part of the agitation mixer 10 has been described, disposition of the motor 18 is not limited to this layout, and the motor 18 may be positioned in the lower part of the agitation mixer 10. In this case, agitation mixer 10 may be configured by turning the above-described structure upside down to carry out mixing by agitation.

Please replace the paragraph beginning on page 16, line 7, with the following rewritten paragraph:

In a fourth embodiment of the present invention, a pre-agitation mixing chamber 100 capable of communicating with other regions of the casing 12 is provided in the upper part of the casing 12 as shown in Fig. 3. The shaft 14 installed in the casing 12 is, in a segment corresponding to the pre-agitation mixing chamber 100, equipped with ~~rod-blades 16a~~rod- or ~~plate-~~plate-shaped agitation blades 16a each having a top surface bowed outward which are shifted by, for example, 30-90 degrees from each other so as not to overlap, and a helical blade 16b is mounted on segments corresponding to the middle part and the lower part of the casing 12.

Please replace the paragraph beginning on page 17, line 7, with the following rewritten paragraph:

In this fourth embodiment, the pre-agitation mixing chamber 100 is separated from other regions in the casing 12 by a divider plate 80 in a state capable of communicating with the other regions, and the region other than the pre-agitation mixing chamber 100 is further separated by another divider plate 80 to enhance efficiency of the turbulence. The inner structure of the casing is not, however, limited to the structures described above, and the divider plates 80 may be eliminated when agitation mixing can otherwise be easily achieved, according to, for example, the properties of the combinations of powder and liquid, or the like. Although the agitation blades 16a and 16b shown in Fig. 3 are used in this embodiment, they are examples provided for the purpose of description and not of limitation, and other agitation blades such as, for example, ~~those~~ agitation blades 16a(1), 16a(2), 16a(3) and 16a(4), and 16b(1), 16b(2), 16b(3) and 16b(4) shown in Figs. 4A to 4D may be utilized in a vertical position appropriately selected in accordance with the location of the inlet. Further, as a substitute for the agitation blade 16a, a plate blade perforated with two or more holes

may be used as an agitation blade. Still further, in the fourth embodiment, although helical blades are provided in the same phase relative to the axial direction as the agitation blade 16b, the helical blades are not limited to those provided in the above manner, and the blades may, for example, be attached to the shaft at regular intervals in different phases relative to the axial direction. The above-described agitation body may be applied to the structure according to any one of the Embodiment 1, 2, and 3. Further, by using an agitation blade obtained by adding edges to the helical blade shown in Fig. 4D, vortices which further increases the efficiency of agitation form when the agitation blade is vibrated.

Please replace the paragraph beginning on page 18, line 20, with the following rewritten paragraph:

Referring to Fig. 5, one end of the powder inlet duct 31 is connected to the powder inlet 51 via a ball valve 92 and the other end of the powder inlet duct 31 divides and branches in two directions, one end of which is integrally connected to a funnel for supplying the powder 34 and the other end of which includes a piston 90 capable of back-and-forth motion for pushing the powder 34. Therefore, by turning the ball valve 92 to an open position as shown in Fig. 5 and then moving the piston 90 forward to push the powder 34, the powder 34 can be fed into the casing 12, whereas by turning the ball valve 92 from the position shown in Fig. 5 to a ~~close~~ closed position by 90 degrees and then retracting the piston 90 backward, feeding of the powder 34 into the casing 12 can be terminated, which enables intermittent feeding of the powder 34 into the casing 12. Further, when the ball valve 92 is set at the closed position, the ball valve 92 prevents the liquid from wetting the inside of the powder inlet duct 31, which facilitates stable feeding of the powder 34.

Please replace the paragraph beginning on page 19, line 11, with the following rewritten paragraph:

Fig. 6 shows a schematic internal structure of an agitation mixer 200 according to a sixth embodiment of the present invention. In this sixth embodiment, the inside of the casing 12 is compartmentalized into a plurality of agitating chambers 110a, 110b, and 110c by the divider plates 80a and 80b as shown in Fig. 6. The shaft 14 in the casing 12 is, in a segment corresponding to the agitating chamber 110a, equipped with ~~rod blades 16a or plate~~ rod- or plate-shaped agitation blades 16a each having a top surface bowed outward shifted by, for example, 30-90 degrees from each other so as not to overlap; in a segment corresponding to the agitating chamber 110b located in the middle part of the casing 12, is equipped with a helical blade 16b perforated with holes 90a; and, in a segment corresponding to the agitating chamber 110c in the lower part of the casing 12, is equipped with a helical blade 16c perforated with holes 90b.

Please replace the paragraph beginning on page 19, line 27, with the following rewritten paragraph:

Fig. 7 is a cross section taken along ~~line A-A'~~ line VII-VII in Fig. 6 showing the divider plate 80a provided with holes 82a of smaller diameter, while Fig. 8 is a cross section taken along ~~line B-B'~~ line VIII-VIII in Fig. 6 showing a divider plate 80b provided with holes 82b of larger diameter.

Please replace the paragraph beginning on page 20, line 3, with the following rewritten paragraph:

Details of the agitation mixer 200 according to the sixth embodiment will next be described. In order to carry out agitation in rough-thorough-rough sequence, the casing 12 is configured as follows. For rough agitation in the agitating chamber 100a, ~~the~~ a rod ~~blade 16a~~ blade whose agitation area is small or ~~the~~ a plate ~~blade 16a~~ blade having a top surface

rounded outward and having a small agitation area is used as an agitation ~~blade~~ blade 16a to be provided in the segment corresponding to the agitation chamber 110a. On the other hand, for thorough agitation in the agitating chamber 100b, an agitation blade provided in the segment corresponding to the agitation chamber 100b has the characteristics that the holes 90a formed in the helical blade 16b are relatively small in diameter and few in number so as to enlarge the agitation area of the blade. Further, in the agitating chamber 100b, the holes 82a formed in the divider plate 80a are also small in diameter and low in number. In order to execute rough agitation in the agitating chamber 110c, an agitation blade provided in the segment corresponding to the agitating chamber 110c has the characteristics that the holes 90b formed in the helical blade 16c are large in diameter and great in number so as to make the agitation area of the helical blade 16c smaller than that of the helical blade 16b. Further, in the agitating chamber 110c, the holes 82b formed in the divider plate 80b are also relatively large in diameter and great in number.

Please replace the paragraph beginning on page 21, line 25, with the following rewritten paragraph:

It should be noted that, although in the above description holes are provided in both the agitation blade and the divider plate, the arrangement of the holes is not limited to this arrangement, and holes may be ~~formed~~ formed in either the agitation blade or the divider plate. In addition, the number and size of the holes may be adjusted as appropriate.

Please replace the paragraph beginning on page 24, line 22, with the following rewritten paragraph:

A filtration member having a mesh (a fine mesh) made of stainless steel or a ceramic whose roughness at the micron level, a reverse osmosis membrane, a polymer membrane (a nanofilter membrane), or the like may be used as the filter 70. The filtrated ~~material~~ material (F) which passed through the filter is drained out from the casing 12 through the filtered drain

port 74. On the other hand, undissolved ~~material~~ material (S) is drained out from an unfiltered drain 76, and then returned back to the inflow ducts 71, 72 through ~~piping~~ exemplary piping 78 as appropriate so as to circulate in the flow channel 75 for further mixing by agitation.

Please replace the paragraph beginning on page 25, line 15, with the following rewritten paragraph:

For example, when the present agitation mixer is used for dissolving a powder, although almost all of the powder can be dissolved through mixing by agitation, a small volume of the powder is left as undissolved material which accumulates in the casing 12 and causes clogging of the filter 70. However, the undissolved material adhered to the internal wall of the filter 70 is scraped off by the agitation blade 16 vibrating in the mixing chambers 77 and 77L surrounded by the filter 70, and is then re-dissolved. A very small volume of the undissolved material is drained out from the unfiltered drain port 76. On the other hand, in a chemical synthesis reaction, when reaction is completed, the amount of compounds increases, which causes the filter 70 to clog. More specifically, as the amount of the accumulated undissolved material or unreacted material increases, the internal pressure of the mixing chamber 77L serving as a mixture ejecting section increases beyond a predetermined value. After the internal pressure reaches the predetermined value, an open/close valve 79 for the unfiltered drain port 76 is opened so as to drain the undissolved material or the unreacted material from the ~~casing~~ casing 12 through the unfiltered drain ~~port 76 12,~~port 76, and, simultaneously, a pressure at an inflow section of the raw material drops in accordance with the outflow of the mixture.

Please replace the paragraph beginning on page 26, line 9, with the following rewritten paragraph:

The open/close valve 79, which automatically opens when the pressure at the unfiltered drain port 76 exceeds a predetermined value, is mounted on the unfiltered drain port 76. The unfiltered drain port 76 or the filtered drain port 74 has a structure in which the unfiltered drain port 76 or the filtered drain port 74 can be switched to establish a connection with the inflow duct 71 or 72 for feeding the raw materials provided on the casing 12 via an additional ~~piping.~~piping 78. Accordingly, the unfiltered material drained from the unfiltered drain port 76 or filtered material drained from the filtered drain port 74 can be refluxed into the casing 12, which enables re-agitation and sufficient mixing of the raw materials M1 and M2.

Please replace the paragraph beginning on page 27, line 21, with the following rewritten paragraph:

It should be noted that, in a case of dissolution, undissolved materials (unfiltered materials) remaining in the mixing chamber 77L can be returned to the flow channel 75 for re-circulation. To achieve re-circulation, ~~piping structure~~ piping 78 is constructed by connecting the bottom end of the unfiltered drain port 76 with inflow ports 71 and 72 through piping using a directional control check valve (not illustrated).

Please replace the paragraph beginning on page 29, line 4, with the following rewritten paragraph:

In an agitation mixer configured as described above, after feeding fluid raw materials M1 and M2 into the casing 12, the agitation body 14 vibrates up and down while the raw materials M1 and M2 are passing through the casing 12, and mixing by agitation is carried out in the flow channel 75. In this process, the raw materials M1 and M2 collide with the agitation body 14 and the divider plates 80 and flow downward passing through the flow ~~holes 78~~ holes in the divider plates 80, which curbs descending velocity of the raw materials M1 and M2. The up and down vibration of the agitation body 14 ensures the efficiency of the

agitation mixing. The casing 12, into which raw materials M1 and M2 in gaseous form, liquid form, powder form, or the like will be inserted, is used for carrying out dissolution, chemical synthesis reaction, etc.